Tottori University

Department of Dryland Science

Graduate School of Sustainability Science
(Master's Program)

Be the change for drylands.
Make changes in our future.

http://www.ipdre.tottori-u.ac.jp/dds/english/

Message from the Head

The Head of Department of Dryland Science
Norikazu Yamanaka

The Department of Dryland Science in Graduate School of Sustainability Science of Tottori University is a new department started in 2017. Based on the long experience of Tottori University with the study of drylands, it aims at training international professionals and scientists who can contribute to solve global problems.

Drylands occupy 41% of the Earth's land areas and about 35% of the world population lives there. There are global issues such as desertification and drought in drylands. These issues are common to all human beings and consequently it is necessary that people all over the world cooperate to solve them. There is no drylands in Japan, but Japan is a signatory country to the United Nations Convention to Combat Desertification (UNCCD) and we have been working on problems in drylands as a member of the international community.

In order to solve environmental problems, it is fundamental to acquire the knowledge and skills on agriculture, environmental conservation etc., as well as to acquire knowledge of diverse cultures and the quality of the life of residents.

We welcome everyone who is interested in various problems occurring in the world and wishes to commit him/her self in solving these problems.

Outline of the Department of Dryland Science

Our aim is to train students to acquire the knowledge and skills in various fields of dryland science such as climate, ecosystems, food problems and agriculture.

Especially, in order to contribute to the achievement of the "Sustainable Development Goals" (SDGs), determined by the United Nations, we are mainly focusing on the six goals below and working on practical studies and researches.

- Goal 1: NO POVERTY —Poverty in drylands
- Goal 2: ZERO HUNGER —Food and agricultural problem in drylands
- Goal 6: CLEAN WATER AND SANITATION –Water problems in drylands
- Goal 7: AFFORDABLE AND CLEAN ENERGY –Energy problems in drylands
- Goal 13: CLIMATE ACTION –Drought in drylands
- Goal 15: LIFE ON LAND –Desertification of drylands

■Characteristic and Structure of the Program

We provide two programs in this department; "General Program" and "Special Program in English".

In the General Program, students are formed to be able to solve problems occurring in drylands by using knowledge in specific fields. In the Special Program, students take all classes and guidance in English so that they will be able to work practically and internationally in the future.

Also, the high percentage of foreign students and professors is a distinctive feature of this department. As Japanese students and international students learn together, they are always in a global environment.

Students have presentation and discussion in English at "Midterm Presentation for Master's Thesis"

■Study and Research Fields

29 professors provide comprehensive study and research about drylands.

Study and Research Fields Lists;

Soil and Water Management, Dryland Environmental Resources, Molecular Breeding, Climate Risk management, Conservation Informatics, Crop Production in Drylands, Fluvial Processes and Geomorphology in Drylands, Irrigation and Drainage in Drylands, Agricultural Development Studies, Plant Nutrition, Revegetation Science in Drylands, Environmental Soil Science, Sustainable Land Management, Plant Eco-Physiology, Dryland Health and Medicine, Dryland Restoration and Conservation Ecology, Applied Meteorology in Dryland, Dryland Climatology, Land Environment and Conservation, Agricultural Water Use and Management, Renewable Energy Engineering, Microbiology in Drylands, Facilities and Environmental Materials, Eco-environment and Resources in Drylands, Environmental Inorganic Chemical Toxicology, Theoretical Physics, Plant Cytogenetics, Agricultural Extension Studies

Professors' information http://www.ipdre.tottori-u.ac.jp/dds/english/member/

Study Features

Curriculum Policy

1. In order to let the students to acquire the knowledge and education necessary for engaging in international activities, the core subjects provide knowledge of cutting-edge dryland science and practical subjects that offer English academic writing training and practical activities abroad.
2. We systematically provide the knowledge and skills in various fields related to dryland science, such as the climate, ecosystems, food and agriculture, to deepen expertise and to learn about the quality of people's lives in dryland communities.
3. In addition, educational training, which will allow students to obtain the ability to conduct independent advanced research on topics related to dryland science, is provided in the form of special exercise in connection with relevant fields and the supervision of master's thesis writing.

The Highest Level Lectures and Activities Abroad by International Professors

Foreign professors will give Top Scientist Lectures (Ⅰ/Ⅱ/Ⅲ/Ⅳ) and also take students to research trip abroad (Overseas Practice Exercises) so that students will be able to work internationally in the future. These lecture will be given in English and students from General Program are also welcome.

Top Scientist Lectures (Ⅰ/Ⅱ/Ⅲ/Ⅳ)

Students gain advanced knowledge of dryland science field by taking these special lectures given by foreign professors.

<Lecture theme and professors' countries>

Ⅰ. Geomorphology of Dryland (Italy)
Ⅱ. Environmental and ecological problems in the grassland ecosystem (China)
Ⅲ. Omnibus lecture by guest professors of Arid Land Research Center (Sudan etc.)
Ⅳ. Omnibus lecture by researchers in International Center for Agricultural Research in the Dry Areas (ICARDA) (Jordan)

Overseas Practice Exercises

The ICARDA researcher gives an instruction to students at breeding field in Rabat

Field trip is the opportunity for students to experience the real situation and problems of drylands which they learned in the class. They discuss about the problems with local residents and also learn the structure of projects, technical elements and problems working with local researchers and technical experts.

Every year, students visit an ICARDA's institution, "North Africa Research Platform", which is in Rabat, Morocco. Students learn about breeding, analysis of components, and controlling the pest-disease of wheat and beans which are important species in dryland.

Through the field trip, they acquire the knowledge of the agricultural methods and the relation between farming and agriculture in drylands which are sustainable and environmental-friendly, such as the water conservatory irrigation and the no-till cultivation.

Example of class (Special Program in English)

Course Title		Instructors
Common Subjects	Researcher Ethics	T.Nagamatsu
	International Exchange and Cross Cultural Understanding	K.Cates
Core Subjects in Major Subjects	Top Scientist Lecturel1	P.Billi
	Scientific Writing	F.Peng
	Scientific Writing Advanced	P.Billi
Advanced Subjects in Major Subjects	Advanced Theory of Dryland Development	A.Tsunekawa, M.Tsubo
	Advanced Theory of Land Management in Drylands	N.Haregeweyn
	Advanced Theory of Dryland Plant Resources	H.Tsujimoto, P.An
	Overseas Practice Exercises	Head of Department
	Domestic Practice Exercises	Head of Department

Students improve their academic writing skills through the "Scientific Writing" class

Admission

Capacity

Major	Program	capacity
Department of Dryland Science	General Program	20
	Special Program in English	

*There is an entrance examination for October Admission –Pre-arrival Admission– to recruit creative, independent and enthusiastic students from both internal and external institutions.

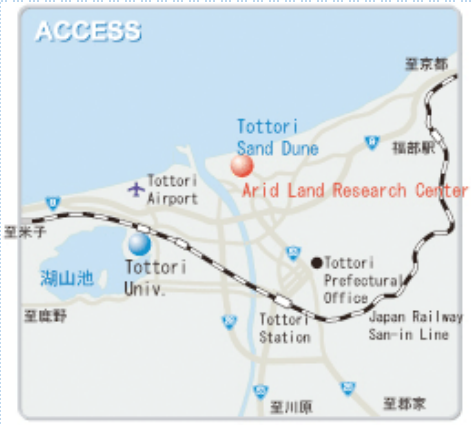
Application Guide

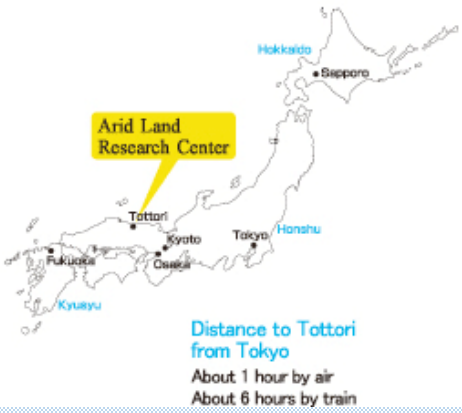
http://www.ipdre.tottori-u.ac.jp/dds/english/admission/

Access

Tottori Main Campus

Hamasaka Campus





Department of Dryland Science has two campuses; Tottori Main Campus and Hamasaka Campus.
Education is provided on both campuses.
In addition, administrative offices are located in both campus.
The shuttle bus is running between two campuses 4 round-trips a day.

Inquiry

(About Department of Dryland Science)

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